



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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(21) International Application Number: PCT/US96/16198 (22) International Filing Date: 10 October 1996 (10.10.96) (30) Priority Data: 08/540,814 11 October 1995 (11.10.95) US 08/542,401 11 October 1995 (11.10.95) US (71) Applicant (for all designated States except US): LUMINEX CORPORATION [US/US]; 12212 Technology Boulevard #K, Austin, TX 78727-6115 (US). (72) Inventors; and (75) Inventors/Applicants (for US only): CHANDLER, Van, S. [US/US]; 2808 McKinney Avenue #410, Dallas, TX 75204 (US). FULTON, R., Jerrold [US/US]; 305 Evergreen Trail, Cedar Hill, TX 75104 (US). CHANDLER, Mark, B. [US/US]; 4 Niles Road, Austin, TX 78700 (US). (74) Agent: PATTERSON, Melinda, L.; P.O. Box 4433, Houston, TX 77210 (US).		(81) Designated States: AL, AM, AT, AU, BA, BB, BG, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, ARIPO patent (KE, LS, MW, SD, SZ, UG), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i> (88) Date of publication of the international search report: 25 September 1997 (25.09.97)
(54) Title: MULTIPLEXED ANALYSIS OF CLINICAL SPECIMENS APPARATUS AND METHOD (57) Abstract <p>A method for the multiplexed diagnostic and genetic analysis of enzymes, DNA fragments, antibodies, and other biomolecules comprises the steps of constructing an appropriately labeled beadset, exposing the beadset to a clinical sample, and analyzing the combined sample/beadset by flow cytometry is disclosed. Flow cytometric measurements are used to classify, in real-time, beads within an exposed beadset and textual explanations, based on the accumulated data obtained during real-time analysis, are generated for the user. The inventive technology enables the simultaneous, and automated, detection and interpretation of multiple biomolecules or DNA sequences in real-time while also reducing the cost of performing diagnostic and genetic assays.</p>		

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IPC 6 G01N15/10 G01N33/50 G01N15/14 C12Q1/68

B. FIELDS SEARCHED

IPC 6 G01N C12Q

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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A	see page 4, line 18-31 see page 5, line 6-10 see page 6, line 10-25 see page 6, line 26 - page 7, line 8 see page 7, line 18 - page 8, line 2 see page 9, line 31-32 see page 19, line 36 - page 20, line 2 ---	50
A	WO 89 11101 A (MICHAEL JOHN HOLMES) 16 November 1989 see page 5, line 20 - page 6, line 15 see page 7, line 33 - page 8, line 2 see page 8, line 15-20 ---	50-52
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☒ Patent family members are listed in annex.

- *A* document defining the general state of the art which is not considered to be of particular relevance
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- *P* document published prior to the international filing date but later than the priority date claimed

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- *'A' document member of the same patent family

28 July 1997

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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A	EP 0 633 462 A (ORTHO DIAGNOSTIC SYSTEMS) 11 January 1995 see page 2, column 42-49 see page 3, line 39-52 see page 5, line 7-9 see page 5, column 57 - page 6, column 15 see page 9, line 4-10 ---	59
X	US 4 075 462 A (ROWE WILLIAM GUY) 21 February 1978 see column 10, line 11-42; figure 5 ---	63,64,69
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Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

- | | |
|-------------------------|--------------------------|
| 1. CLAIMS: 1-58, 85, 89 | 2. CLAIMS: 59-70, 71, 74 |
| 3. CLAIMS: 71, 74 | 4. CLAIMS: 75-84 |

FOR FURTHER INFORMATION PLEASE SEE FORM PCT/ISA/206 MAILED 01.04.97

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
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Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

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